User's Guide

HP vs15 LCD Monitor
HP vs17 LCD Monitor
HP vs19 LCD Monitor
HP f1705 LCD Monitor
HP f1905 LCD Monitor

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Text set off in this manner indicates additional information.

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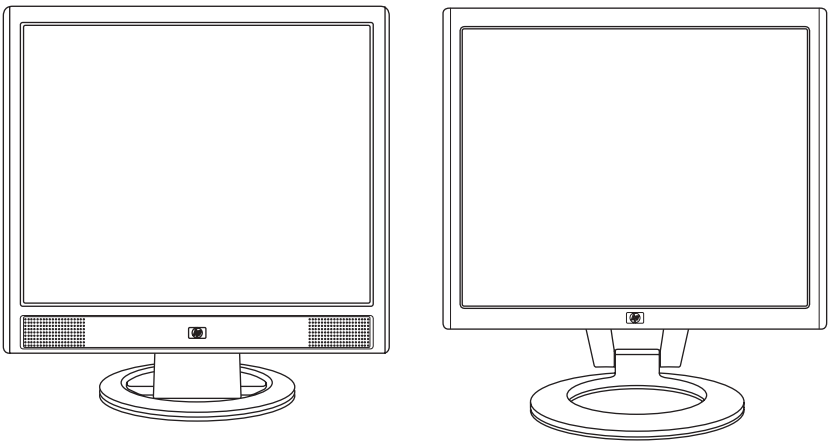
1

Product Features

HP LCD Monitor

The HP LCD (liquid crystal display) Monitor has an active matrix, thin-film transistor (TFT) screen. This guide discusses five models:

- ❏ HP vs15 LCD Monitor, a 15-inch (38.1 cm) display
- ❏ HP vs17 LCD Monitor, a 17-inch (43.2 cm) display
- ❏ HP vs19 LCD Monitor, a 19-inch (48.3 cm) display
- ❏ HP f1705 LCD Monitor, a 17-inch (43.2 cm) display
- ❏ HP f1905 LCD Monitor, a 19-inch (48.3 cm) display



The vs monitor with internal speakers, and the f monitor (f monitor satellite speakers not shown)

The flat-panel monitor features:

- Large diagonal viewable area display
- 1280 × 1024 factory-set resolution, plus full-screen support for lower resolutions (HP vs15 LCD Monitor: 1024 x 768)
- Video inputs supported:
  - ❏ VGA analog signal
  - ❏ DVI-D (select f monitor models only) digital signal
- VGA analog signal cable (provided)
- Fast response time providing better experience for gaming and graphics
- Easy to view from a sitting or standing position, or while moving from one side of the monitor to the other
- Tilt adjustment capabilities (f monitor also has height adjustment)
- Removable pedestal and Video Electronics Standards Association (VESA) standard mounting holes for flexible mounting solutions, including wall mounting
- Security lock slot for a Kensington lock security cable (security cable not provided)
- Plug and Play capability, if supported by your computer system
- On-screen display (OSD) adjustments for ease of setup and screen optimization (choose English, Simplified Chinese, French, German, Italian, Spanish, or Dutch)
- Audio connections supported:
  - ❏ vs monitors: Integrated stereo speakers with a computer line out connector and a headphones connector on the monitor
  - ❏ f monitors: Satellite stereo speakers with connectors for computer line out, an HP subwoofer, and headphones
- Integrated power supply
- Energy Saver to reduce power consumption

- Compliance with the following regulated specifications:
  - EPA Energy Star
  - European Union CE Directives
  - Swedish MPR II 1990
  - TCO Environmental Requirements
- CD with:
  - Information (INF) file
  - Image Color Matching (ICM) file
  - Auto-adjustment pattern software
  - Safety information
  - TCO Environmental Requirements
  - The User's Guide
  - Adobe® Acrobat® Reader

2

Safety and Maintenance Guidelines

Important Safety Information

A power cord is included with your monitor. If another cord is used, use only a power source and connection appropriate for this monitor. For information on the correct power cord set to use with your monitor, see "Power Cord Set Requirements" in Appendix B.

WARNING: To reduce the risk of electric shock or damage to your equipment, do not disable the power cord grounding feature. The grounding plug is an important safety feature. Connect the equipment to a grounded (earthed) power outlet.

WARNING: For your safety, be sure that the grounded power outlet you plug the power cord into is easily accessible to the operator and located as close to the equipment as possible. To disconnect power from the equipment, unplug the power cord from the power outlet by grasping the plug firmly. Never pull on the cord.

CAUTION: To protect your monitor, as well as your computer, connect all power cords for your computer and its peripheral devices (such as a monitor, printer, or scanner) to a surge protection device such as a power strip with surge protection or uninterruptible power supply (UPS).

Not all power strips provide surge protection; the power strips must be specifically labeled as having this ability. Use a power strip whose manufacturer offers a damage replacement policy so you can replace your equipment if surge protection fails.

Safety Precautions

- Use only a power source and connection appropriate for this monitor, as indicated on the label/back plate of the monitor.
- Be sure the total ampere rating of the products connected to the outlet does not exceed the current rating of the electrical outlet, and the total ampere rating of the products connected to the cord does not exceed the rating of the cord. Look on the power label to determine the ampere rating (Amps or A) for each device.
- Install your monitor near an outlet that you can easily reach. Disconnect the monitor by grasping the plug firmly and pulling it from the outlet. Never disconnect the monitor by pulling the cord.
- Do not allow anything to rest on the power cord. Do not walk on the cord.

Maintenance Guidelines

To enhance the performance and extend the life of your monitor:

- Do not open your monitor cabinet or attempt to service this product yourself. If your monitor is not operating properly or has been dropped or damaged, contact your HP authorized dealer, reseller, or service provider.
- Adjust only those controls that are described in the operating instructions.
- Turn your monitor off when not in use. You can substantially increase the life expectancy of your monitor by using a screen saver program and turning off the monitor when not in use.
- Keep your monitor in a well-ventilated area, away from excessive light, heat, or moisture.
- Slots and openings in the cabinet are provided for ventilation. These openings must not be blocked or covered. Never push objects of any kind into cabinet slots or other openings.

CAUTION: Do not use benzene, thinner, ammonia, or any other volatile substances to clean the monitor screen or cabinet. These chemicals may damage the monitor. Do not use liquid cleaners or aerosol cleaners. Never use water to clean an LCD screen.

- Unplug your monitor from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners.
- Do not drop your monitor or place it on an unstable surface.
- When removing the monitor base or stand, you must lay the monitor face down on a soft area to prevent it from getting scratched, defaced, or broken.

Cleaning the Monitor

The monitor is a high-quality optical device that requires special care when cleaning. To clean the monitor, follow these steps:

1. Turn off the computer and the monitor.
2. Unplug your monitor from the wall outlet before cleaning.

CAUTION: Do not use benzene, thinner, ammonia, or any volatile substances to clean the monitor screen or cabinet. These chemicals may damage the monitor. Do not use liquid cleaners or aerosol cleaners. Never use water to clean an LCD screen.

3. Wipe the screen with a dry, soft, clean cloth.
   - ❏ If the screen requires additional cleaning, use an antistatic screen cleaner.
4. Dust the monitor housing. Use a damp cloth to clean the cabinet.
   - ❏ If the cabinet requires additional cleaning, use a clean cloth dampened with isopropyl alcohol.
5. Plug in the monitor.
6. Turn on the monitor and the computer.

Shipping the Monitor

Keep the original packing box in a storage area. You may need it later if you move or ship your monitor.

- When you ship the vs monitor, remove the base from the pedestal.
- When you ship the f monitor, prepare it for shipping by folding it into position.

Removing the vs Monitor Base

Read the following warning and caution statements before beginning the procedure.

WARNING: Do not remove the base from the pedestal while the monitor is standing in the upright position. Attempting to remove the base from the pedestal while the monitor is upright may injure the user.

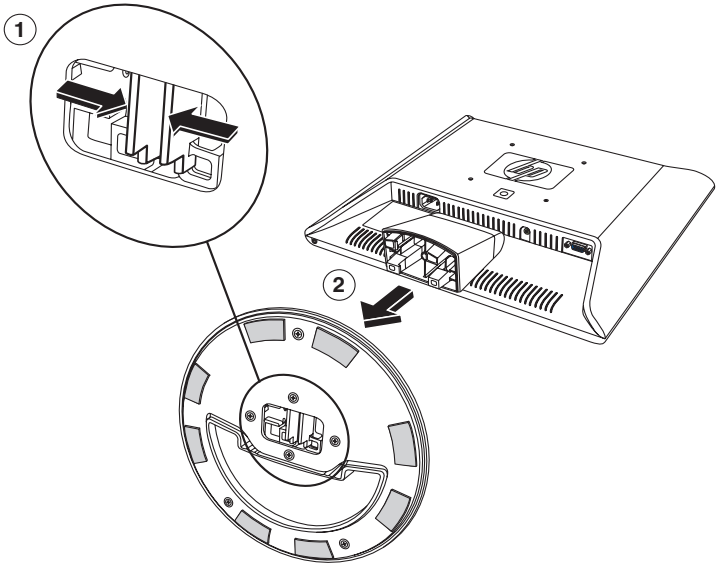
WARNING: Before disassembling the monitor, turn off the monitor power, and disconnect all power, video, and audio cables. To disconnect power from the equipment, unplug the power cord from the power outlet by grasping the plug firmly. Never pull on the cord.

CAUTION: The screen is fragile. Placing the monitor screen down on a flat, soft area prevents scratches, defacing, or breakage.

To remove the vs monitor base from the pedestal:

1. Disconnect the power, video, and audio cables from the monitor.
2. Set the monitor screen down on a flat, soft, protected surface so that the base is just over the edge of the surface.

3. Holding the panel in place, pinch inside the base ❶, as shown in the following illustration, and then pull the base off the pedestal ❷.



Removing the base from the vs monitor pedestal

4. Pack the base with the monitor panel.

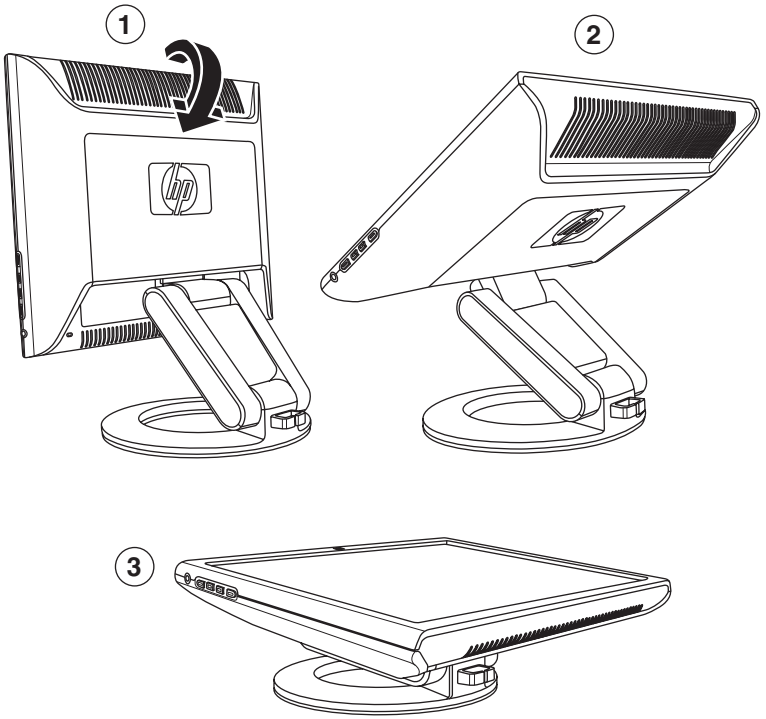
Preparing the f Monitor for Shipping

Read the following warning statement before beginning the procedure.

WARNING: Before folding the monitor, turn off the monitor power, and disconnect all power, video, and audio cables.
To disconnect power from the equipment, unplug the power cord from the power outlet by grasping the plug firmly. Never pull on the cord.

To prepare the f monitor for shipping:

1. Disconnect the power, video, and audio cables from the monitor.
2. Push down on the top edge of the monitor to flatten the hinge ❶, as shown in the following illustration, and then push down the top ❷ to close the monitor completely ❸.



Folding the f monitor for shipping

3

Setting Up the Monitor

Before You Begin

1. Unpack the monitor. Make sure all contents are included. Store the boxes.
2. Turn off the computer, and other attached devices.
3. Determine the video cable or cables that you will connect from the computer video card outputs to the VGA and DVI-D (select f monitors only) inputs on the monitor. The vs monitor supports only VGA. For the f monitor, you can connect one or both cables.
   - ❏ VGA cable:
     Standard VGA 15-pin cable (provided).
   - ❏ DVI-D cable:
     For digital operation, use a DVI-D-to-DVI-D video cable (not provided). The DVI-D connector on the f monitor is for digital-to-digital connection only. Your computer must have a DVI-compatible graphics card installed for use with this cable.
4. Determine whether the monitor will be desktop-mounted or wall-mounted.
   - ❏ See “Installing the Monitor”.
5. Prepare a flat area to use when assembling the monitor. You may need a flat, soft, protected area for placing the monitor screen-down while preparing it for wall mounting.
6. You need a Phillips-head screwdriver for preparing the monitor for wall-mounting. You may need a straight-slot screwdriver to secure some cables.

Installing the Monitor

You can install the monitor on a desktop or wall mount. Place the monitor in a convenient, well-ventilated location near your computer.

If the monitor will be installed on a:

- Desktop or table, see "Placing the Monitor on a Desktop" for your monitor type.
- Wall, swing arm, or other mounting fixture, see "Wall Mounting the Monitor" for your monitor type.

Instructions are specific for each type of monitor; refer to the section for your type of monitor.

Connect the monitor after you have installed it. See "Connecting the Monitor".

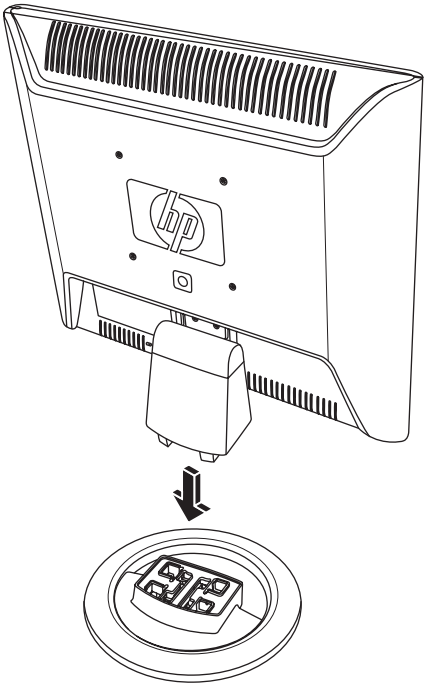
Placing the vs Monitor on a Desktop

Before you place the vs monitor on a desktop or table, you must attach the monitor base.

To place the vs monitor on a desktop or table:

1. Set the monitor base on a flat surface with the closed portion toward you.

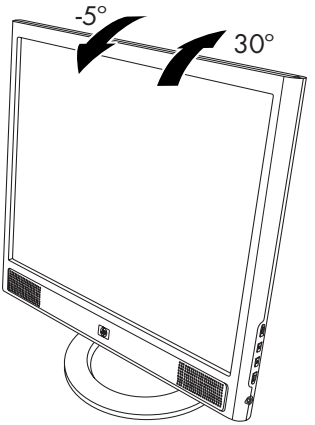
2. Pick up the panel with the back toward you and lower the pedestal onto the base, as shown in the following illustration, until the base locks.



Inserting the vs monitor onto the base

3. Stand the monitor in the upright position on a desktop or table.

4. Tilt the monitor for proper viewing. Do not tilt the monitor beyond its easily adjustable position.



Adjusting the vs monitor tilt

Wall Mounting the vs Monitor

Before you mount the monitor on a wall, a swing arm, or other mounting fixture, you must remove the monitor base and the pedestal. You will need a Phillips-head screwdriver. Read the following warning and caution statements before beginning the procedure.

WARNING: Ensure that the monitor is lying flat, with the screen down. Attempting to remove the base or pedestal from the monitor while it is upright may result in injury to the user.

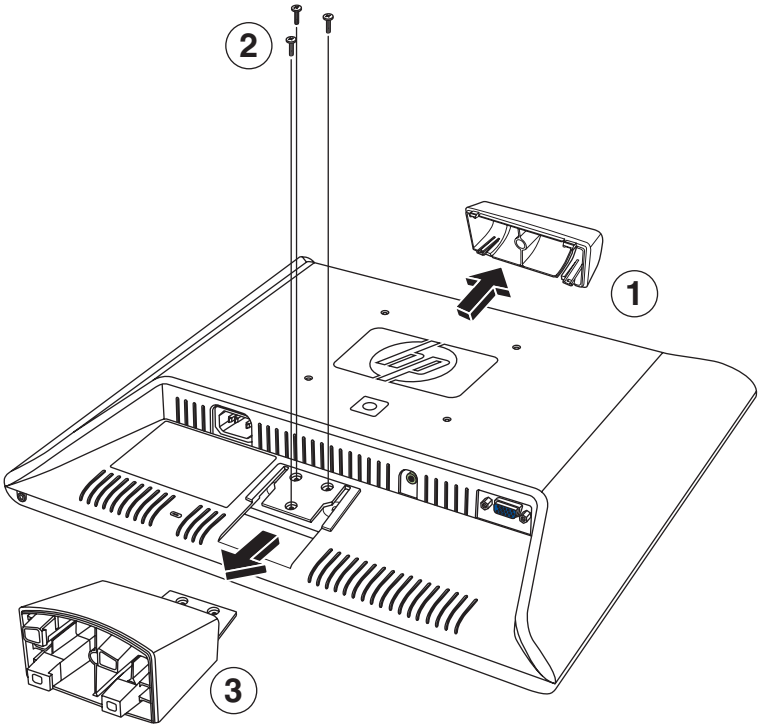
CAUTION: Before disassembling the monitor, turn off the monitor power, and disconnect all power, video, and audio cables.

To install the vs monitor on a wall, a swing arm, or other mounting fixture:

1. Remove the vs monitor base. Refer to "Removing the vs Monitor Base" in the previous chapter. Keep the monitor panel screen down on the flat, soft area.

CAUTION: The screen is fragile. Placing the monitor screen down on a flat, soft area prevents scratches, defacing, or breakage.

2. Remove the hinge cover ❶ as shown in the following illustration, and set it aside. Three screws and the hinge are exposed.
3. Holding the pedestal so it cannot fall, use a magnetic screwdriver to remove the single screw close to the hinge, and then remove the other two screws ❷. If necessary, move the pedestal so that all three screws are accessible.
4. Slide the pedestal off the monitor panel ❸.



Wall mounting the vs monitor

5. Save the removed items (screws, hinge cover, pedestal, and base) for future use.
6. Mount the vs monitor to a swing arm or other mounting fixture.

   The four threaded mounting holes on the back of the panel, located around the HP logo, are compliant with the VESA standard for mounting flat-panel monitors. The vs15 Monitor uses the 75mm spacing standard, while the other vs Monitors use the 100mm spacing standard.

   Use the four holes to attach a swing arm or other mounting fixture. Follow the instructions included with the mounting fixture to ensure that the monitor is safely attached.

To reinstall the desktop pedestal and base for the vs monitor:

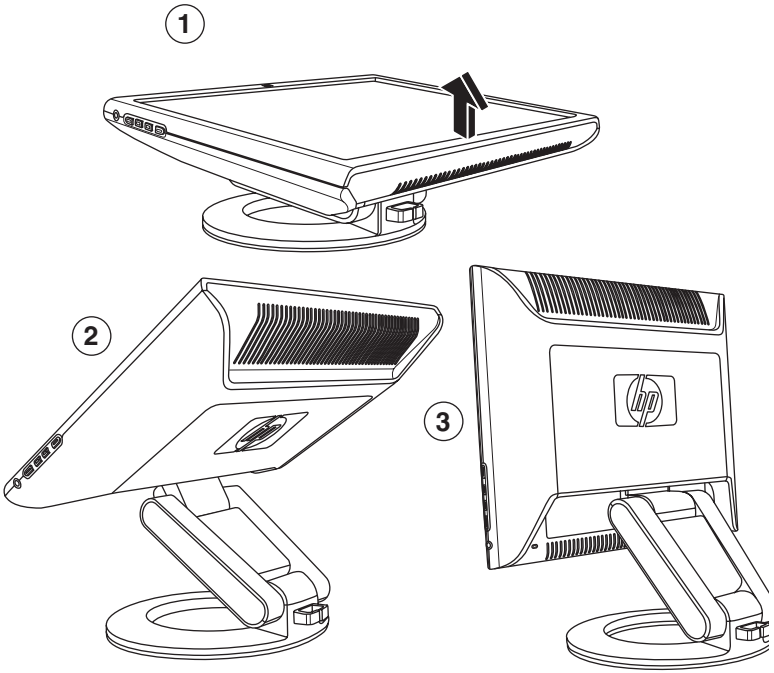
1. Remove the mounting fixture.
2. Reverse the preceding instructions to slide the pedestal onto the panel, insert the three screws, and then place the hinge cover onto the hinge. Reinstall the base.

Placing the f Monitor on a Desktop

To place the f monitor on a desktop or table, you must unfold the monitor.

To place the f monitor on a desktop or table:

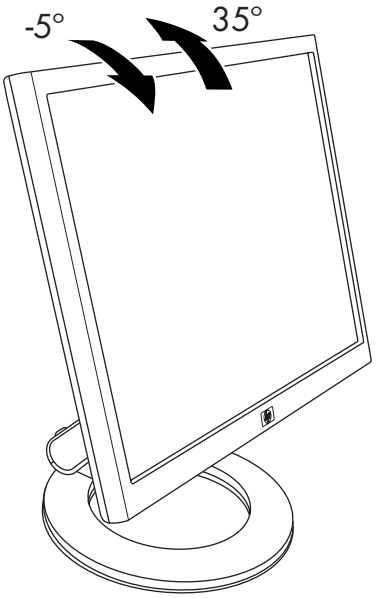
1. Set the monitor on a flat surface.
2. Hold the base of the monitor and lift up the panel at the top ❶, as shown in the following illustration.
3. Continue to lift the panel ❷ to its easily adjustable position ❸.



Opening the f monitor

4. Stand the monitor in the upright position on a desktop or table.

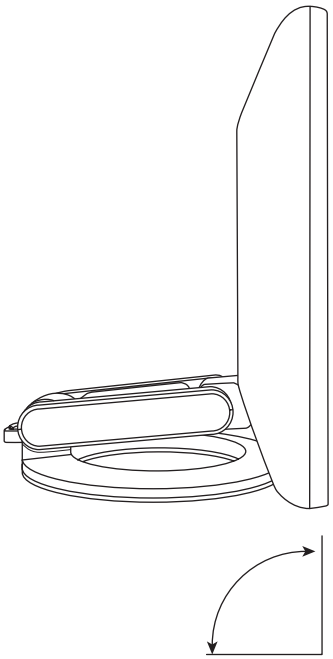
5. Tilt the monitor for proper viewing. Do not tilt the monitor beyond its easily adjustable position.



Adjusting the f monitor tilt

WARNING: Tilt the monitor carefully. If you tilt the monitor back more than 35 degrees, beyond its easily adjustable position, it can fall over. Position the monitor so that it cannot fall off the table if bumped.

You can adjust the f monitor so that the panel is fully forward and the bottom of the panel is nearly on the desktop, as shown in the following illustration.



Adjusting the f monitor fully forward

6. Assemble the speakers. Refer to "Assembling the f Monitor Satellite Speakers" in this chapter.

Wall Mounting the f Monitor

Before you mount the monitor on a wall, a swing arm, or other mounting fixture, you must remove the monitor back cover and the monitor pedestal-base assembly. You will need a Phillips-head screwdriver. Read the following warning and caution statements before beginning the procedure.

WARNING: Ensure that the monitor is lying flat, with the screen down. Attempting to remove the pedestal-base assembly from the monitor while it is upright may result in injury to the user.

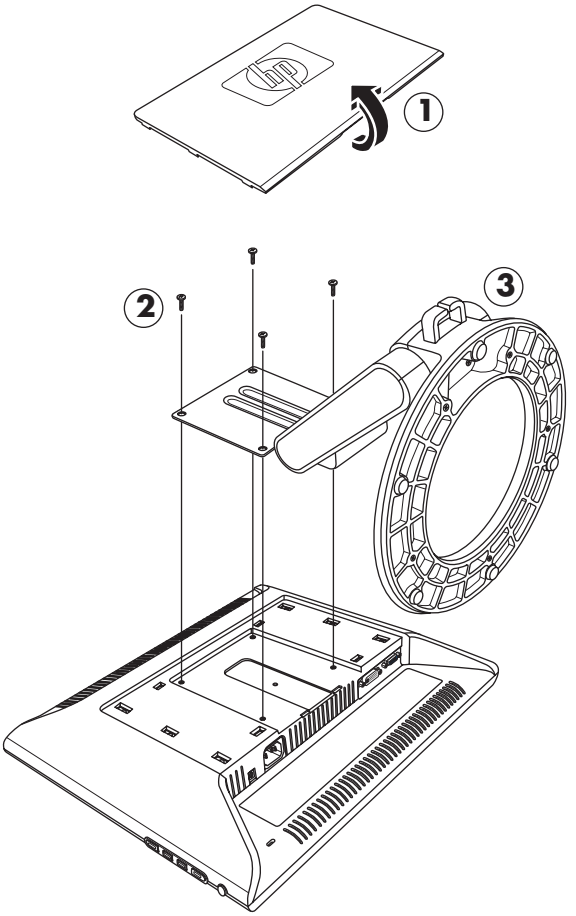
CAUTION: Before disassembling the monitor, turn off the monitor power, and disconnect all power, video, and audio cables.

To install the f monitor on a wall, a swing arm, or other mounting fixture:

CAUTION: The screen is fragile. Placing the monitor screen down on a flat, soft area prevents scratches, defacing, or breakage.

1. Set the monitor screen down on a flat, soft, protected surface.

2. Pull up on the bottom edge and remove the rectangular back cover ❶ as shown in the following illustration. Set the back cover aside. Four screws are exposed.



Wall mounting the f monitor

3. Holding the pedestal-base assembly so it cannot fall, remove the four screws ❷. Use a Phillips-head screwdriver. Lift the assembly ❸ and set it aside.
4. Save the removed items (screws, back cover, and pedestal-base assembly) for future use.
5. Mount the f monitor to a swing arm or other mounting fixture.

   The four threaded mounting holes on the monitor panel are spaced 100 mm apart and are compliant with the VESA standard for mounting flat-panel monitors.

   Use the four holes to attach a swing arm or other mounting fixture. Follow the instructions included with the mounting fixture, to ensure that the monitor is safely attached.
6. Assemble the speakers. Refer to "Assembling the f Monitor Satellite Speakers" in this chapter.

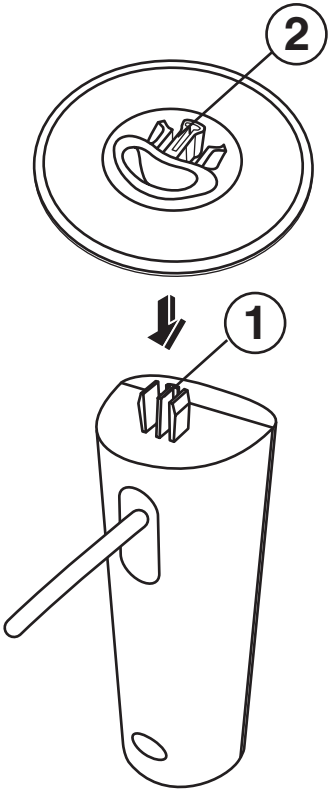
To reinstall the desktop pedestal-base assembly for the f monitor:

1. Remove the mounting fixture.
2. Reverse the preceding instructions to attach the pedestal-base assembly onto the panel (be sure to insert the top two screws first), and then replace the rectangular back cover and snap it into place on the monitor.

Assembling the f Monitor Satellite Speakers

To assemble the two satellite speakers for the f monitor:

1. Invert each speaker as shown in the following illustration.



2. Hold a speaker base inverted over the inverted speaker. With the opening in the base toward the back of the speaker, match the speaker center tab ❶ with the base key slot ❷, and then lower the base onto the speaker.

Connecting the Monitor

Connecting the monitor includes steps for:

- Connecting the video input cable to the computer by using a VGA cable (provided) or a DVI-D cable (DVI-D connector on select f monitor models only; DVI-D cable not provided).

You can connect the VGA cable, the DVI-D cable (not provided), or both. Only one cable is connected for typical installations. The DVI-D connector on the f monitor (select models only) is for digital-to-digital connection only. Your computer must have a DVI-compatible graphics card installed for use with this cable.

- Connecting the audio cable. The f monitor steps include connecting the speaker DC power cable and an optional HP subwoofer (not provided).
- Connecting the power cord.

Refer to the figure for your monitor type in the illustrations that follow.

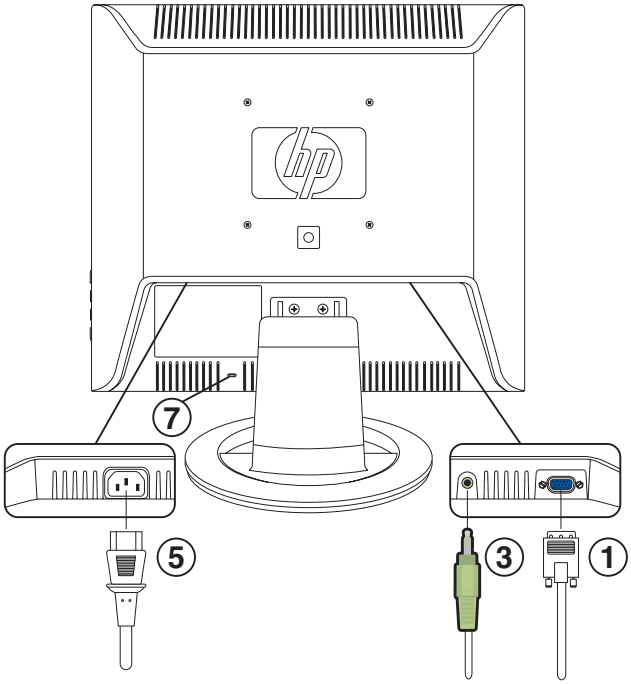
CAUTION: Before connecting the monitor cables, turn off and unplug the computer and the monitor.

Connecting the Monitor Video Input Cable

Be sure the computer and monitor are off and unplugged.

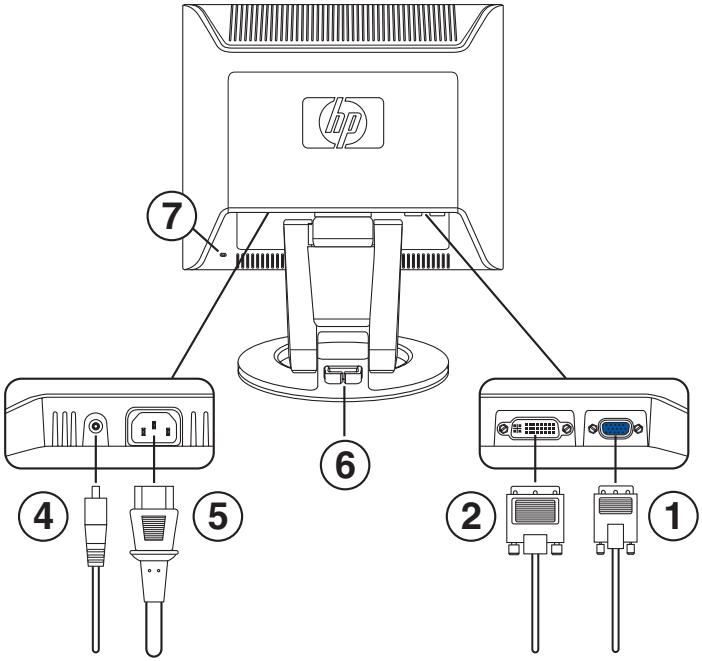
To Connect the VGA Cable

- Connect the VGA video cable to the monitor and to the video connector on the rear panel of the computer:
  - ❏ Connect one end of the 15-pin VGA cable (provided) to the VGA input connector on the monitor ❶ (as shown in the following illustrations). The monitor may come with the VGA cable connected.
  - ❏ Then, connect the other end of the cable to the VGA output connector on the computer.



Connecting cables on the vs monitor

Item	Description
1	VGA connector and VGA cable
3	Audio connector and audio cable
5	AC Power connector and power cord
7	Security lock slot for a Kensington security lock cable (not provided)



Connecting cables on the f monitor

Item	Description
1	VGA connector and VGA cable
2	DVI-D connector (select models only) and DVI-D cable (cable not provided)
4	DC power connector and DC power cable for speakers
5	AC Power connector and power cord
6	Cable managment clasp
7	Security lock slot for a Kensington security lock cable (not provided)

To connect the DVI-D Cable

- Connect the DVI-D video cable (not provided) to the f monitor (select models only) and to the video connector on the rear panel of the computer. (The DVI-D connector on the f monitor is for digital-to-digital connection only. Your computer must have a DVI-compatible graphics card installed for use with this cable.)
  - ❑ Connect one end of the DVI-D cable to the DVI-D input connector on the monitor ❷.
  - ❑ Then, connect the other end of the cable to the DVI connector on the computer.

Connecting the Audio Cable

To enable the speakers, connect the audio cable to the line out connector on the computer according to your monitor type.

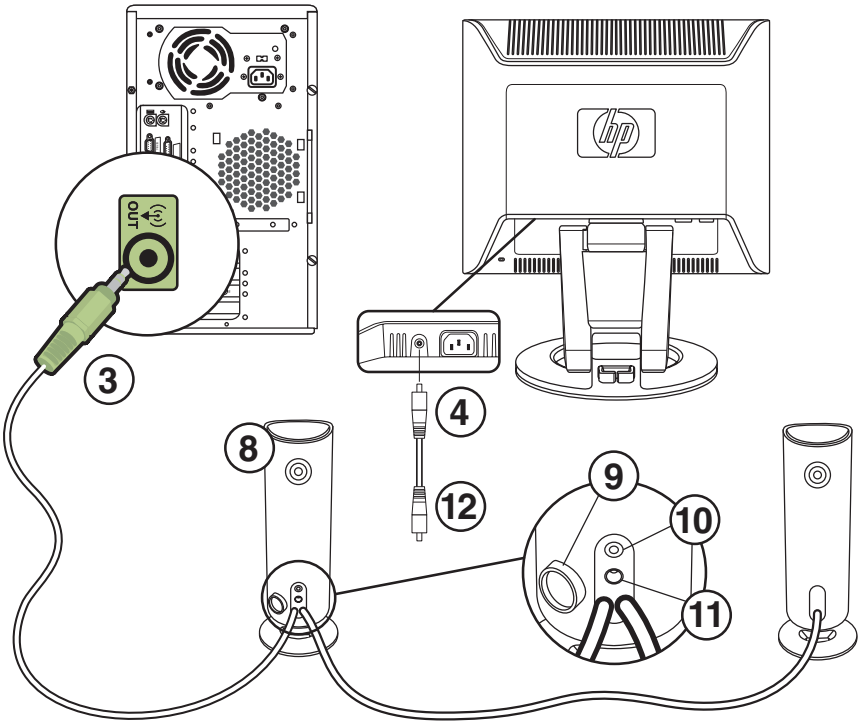
To connect audio for the vs monitor

1. Connect one end of the audio cable (provided) to the computer audio line out connector and connect the other end to the monitor audio connector ❸ (see the previous illustration "Connecting cables on the vs monitor).
2. As needed, connect headphones to the headphone jack connector on the vs monitor. (The headphones connector is item **F** in the illustration "Front panel buttons on the vs monitor" in the next chapter.)

To connect audio for the f monitor

1. Place the f monitor speaker set so that the speaker with the controls ❽, as shown in the figure that follows, is on the right side when you view the f monitor from the front.
2. Insert the green plug on the end of the right speaker audio cable ❸ into the computer audio line out connector.

3. If you are using an HP subwoofer, insert the subwoofer audio plug into the right speaker subwoofer connector ❿.
4. Connect one end of the speaker DC power cable ⓬ to the right speaker DC power connector ⓫. Connect the other end of the cable to the DC power connector ❹ on the f monitor.
5. As needed, connect headphones to the headphone jack connector (not shown) on the right speaker.



Connecting the f monitor speakers

Item	Description
3	Speaker audio cable at computer connector
4	Speaker DC power connector and DC power cable ⓬ (to right speaker DC power ⓫ connector)
8	Right speaker with Control knob ❾, and connectors for subwoofer ❿ and speaker DC power ⓫
Not shown	Headphone connector (right speaker)

Connecting the Power Cable

1. Read the warning below.

WARNING: To reduce the risk of electric shock or damage to your equipment:

Do not disable the power cord grounding plug. The grounding plug is an important safety feature. Plug the power cord into a grounded (earthed) electrical outlet.

Be sure that the grounded power outlet you plug the power cord into is easily accessible to the operator and located as close to the equipment as possible. A power cord should be routed so that it is not likely to be walked on or pinched by items placed upon it or against it.

Do not place anything on power cords or cables. Arrange them so that no one may accidentally step on or trip over them. Do not pull on a cord or cable.

See "Power Cord Set Requirements" in Appendix B for additional information.

2. Connect one end of the power cable to the monitor ❺ and the other end to an electrical wall outlet.
3. For the f monitor, place the cables through the cable managment clasp ❻ at the back of the monitor base.

4. Apply power to the monitor, the computer and other attached devices. For the f monitor, turn the satellite speakers on and adjust volume by turning the Control knob ❾ on the right speaker.
5. The Monitor Status displays a message:
   - ❑ **VGA Input:** *Active* or *No Input Signal*
   - ❑ **DVI Input:** *Active* or *No Input Signal* (select f monitor models only)
   - ❑ **Mode:** *Settings*
6. Adjust the monitor as needed for your comfort. Tilt the monitor for proper viewing. Do not tilt the monitor beyond its easily adjustable position. Refer to "Installing the Monitor" previously in this chapter.
7. Configure the monitor as described in the next chapter, "Operating the Monitor."

4

Operating the Monitor

CD Software and Utilities

The CD included with this monitor contains two files you can install on your computer:

- An INF (information) file
- An ICM (Image Color Matching) file

This CD also contains the auto-adjustment utility. This single pattern program helps improve the picture quality of your VGA input monitor. See "Using the Auto-Adjustment Function" in this chapter.

Adobe Acrobat Reader is supplied on the CD and can be installed from the menu.

The Information File

This monitor is Windows Plug and Play compatible, and the monitor will work correctly without installing the INF file. The INF file enables the computer to communicate with the monitor and use all the monitor features. The INF file defines monitor resources used by Microsoft Windows® operating systems to ensure monitor compatibility with your computer's graphics adapter.

Monitor Plug and Play compatibility requires that the computer's graphics card is VESA DDC2 compliant and that the monitor connects directly to the graphics card. Plug and Play does not work through separate BNC-type connectors or through distribution buffers or boxes. You may have to install the INF file from the CD if these conditions are not met.

The Image Color Matching File

The ICM files provide more accurate color representation by supplying data to graphics programs to provide consistent color matching from monitor screen to printer, or from scanner to the monitor screen. The ICM files contain a monitor color system profile. These files are activated from within graphics programs that support this feature.

The ICM color profile is written in accordance with the International Color Consortium (ICC) Profile Format Specification.

Installing INF and ICM Files

If you determine that you need to update these files, you can install INF and ICM files from the CD, or download them from the Internet.

Installing from the CD

To install INF and ICM files on your computer from the CD:

1. Insert the CD in your computer CD drive. The CD menu displays.
2. View the "INF and ICM Readme" file (in English only).
3. Select **Install INF and ICM Files** in the CD menu.
4. Follow the onscreen instructions.
5. After the files have been installed, restart the computer.
6. Ensure that the proper resolutions and refresh rates appear in the Display Control Panel settings. Refer to your Windows operating system documentation for more information.

You may need to install the digitally signed monitor INF or ICM files manually from the CD, in the event of an installation error. Refer to the "INF and ICM Readme" file on the CD for instructions (in English only).

Downloading from the World Wide Web

To download the latest version of INF and ICM files from the HP Support Web site:

1. Refer to: **http://www.hp.com/support**
   Select your country/region.
2. Follow the links for your monitor to the support page.
3. Ensure your system meets the requirements.
4. Download the software by following the instructions.

Using the Auto-Adjustment Function

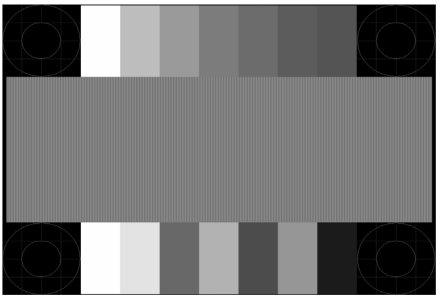
You can easily optimize the screen performance for the VGA input by using the Auto/Select button on the monitor and the auto-adjustment pattern software on the CD provided.

Do not use this procedure if your monitor is using a DVI input (select models only). If your monitor is using an analog (VGA) input, this procedure can correct the following image quality conditions:

- Fuzzy or unclear focus
- Ghosting, streaking, or shadowing effects
- Faint vertical bars
- Thin, horizontal scrolling lines
- Off-center picture

To use the auto-adjustment feature:

1. Allow the monitor to warm up for 20 minutes before adjusting.
2. Press the Auto/Select button on the monitor front panel.
   - ❑ You can also press the Menu button, then select **Auto-Adjustment** from the OSD Main Menu. See "Adjusting Monitor Settings" in this chapter.
   - ❑ If the result is not satisfactory, continue with the procedure.
3. Insert the CD in your computer's CD-drive. The CD menu launches.
4. Select **Open Auto-Adjustment Software**.
5. The setup test pattern displays.

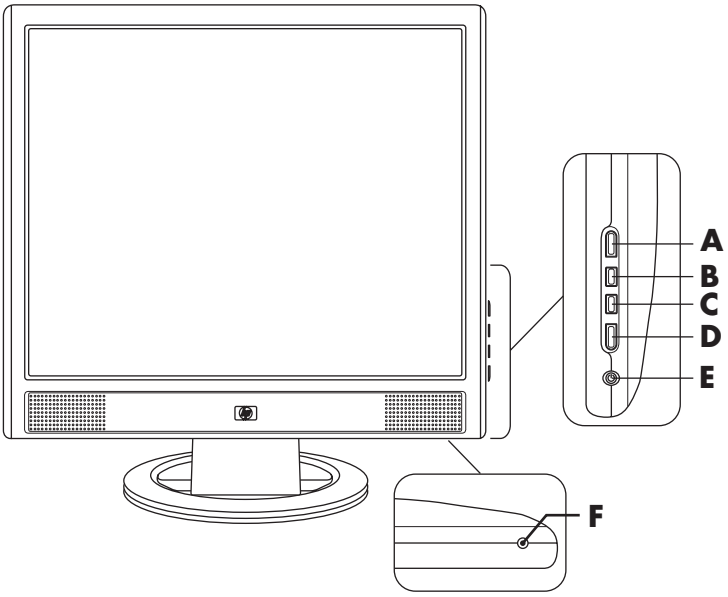


Auto-adjustment setup test pattern

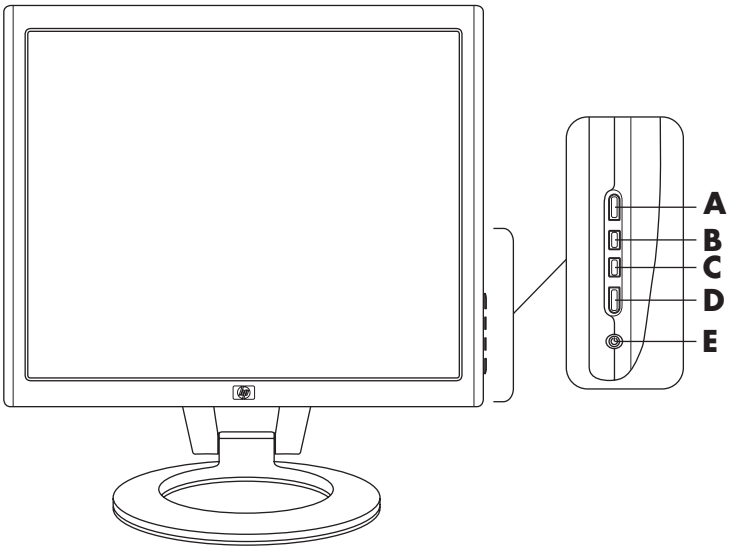
6. Press the Auto/Select button on the monitor front panel to produce a stable, centered image.

Front Panel Components

The monitor buttons are located on the side of the front panel.



Front panel buttons on the vs monitor

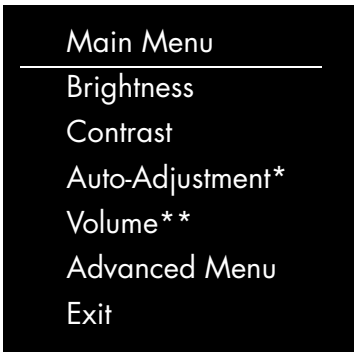


Front panel buttons on the f monitor

Item	Control	Function	
A	**Menu** (Onscreen Display)	*OSD Menu Active* Button closes OSD. (Also closes setting screens on OSD menu.)	*OSD Inactive* Button opens OSD.
B	*vs monitor:* **/+** (Vol up/Plus) *f monitor:* **/+** (DVI/Plus)	*OSD Menu Active* Button navigates up or right browse, and adjusts settings up.	*OSD Inactive* *vs monitor:* Button increases the volume level of the monitor speakers. *f monitor:* Button selects the DVI-D video input.
C	*vs monitor:* **/–** (Vol down/Minus) *f monitor:* **/–** (VGA/Minus)	*OSD Menu Active* Button navigates down or left browse, and adjusts settings down.	*OSD Inactive* *vs monitor:* Button decreases the volume level of the monitor speakers. *f monitor:* Button selects the VGA video input.
D	**Auto/Select**	*OSD Menu Active* Button acts as an Enter (Select) key to select setting screen options.	*OSD Inactive* Button starts auto-adjustment, which automatically adjusts the display to the ideal setting.
E		*Power Switch* Turns monitor on and to standby (sleep mode).	*Power light* Fully powered: Blue Sleep mode: Amber
F	(Headphone jack)	When the headphones are connected, the monitor speakers are muted. *vs monitor only:* Connects a headphone set to the monitor. *f monitor:* Headphone jack is on the right speaker.	

Using the Onscreen Display

1. If the monitor is not already on, press the Power switch (**E**) to turn on the monitor.
2. To access the OSD menu, press the Menu button (**A**). The OSD Main Menu displays.



*Auto-Adjustment appears for VGA (analog) connections only.

**Volume appears for the vs monitors only.

3. To access the Advanced OSD menu, press the Menu button again. The OSD Advanced menu displays. See the next section for more information.
4. To navigate through the Main or Advanced OSD menu, press the **+** (Plus) button (**B**) on the monitor's front panel to scroll up, or the **–** (Minus) button (**C**) to scroll in reverse. Then press the Auto/Select button (**D**) to select the highlighted function.
   - ❏ The menu moves to the top if you scroll down at the bottom of the selections. The menu moves to the bottom if you scroll up at the top of the selections.
5. To adjust the scale of a selected item, press the **+** or **–** buttons.
6. Select **Save and Return**.
   - ❏ If you don't want to save the setting, select **Cancel** from the Advanced Menu or **Exit** from the Main Menu.
7. Press the Menu button to exit the OSD.

If the buttons remain untouched for 30 seconds (factory default) while displaying a menu, new adjustments and settings, except for brightness and contrast, revert to previous settings, and then the menu closes.

Adjusting Monitor Settings

The screen adjustments are set in the OSD menus. Two OSD menus are available:

- Main
- Advanced

Main Menu

To access the Main Menu, press the Menu button on the monitor. The Main Menu Level 1 displays.

The following table describes Main Menu selections and levels.

Main Menu	
Menu Level 1	**Menu Level 2**
Brightness	Adjustment Scale
Contrast	Adjustment Scale
Auto-Adjustment* (analog only)	
Volume**	Adjustment Scale
Advanced Menu	
Exit	

*Auto-Adjustment appears for VGA (analog) connections only.

**Volume appears for the vs monitors only.

Advanced Menu OSD

To access the Advanced Menu, press the Menu button again (twice), or select **Advanced Menu** from the Main Menu. The Advanced Menu Level 1 displays.

After selecting the Advanced Menu from the Main Menu, the Advanced Menu remains the default OSD on subsequent power-ups of the monitor until the Main Menu is selected or factory reset is applied.

The Advanced Menu OSD has up to three levels and can be viewed in one of the available languages. The following table describes Advanced Menu selections, levels, and factory pre-sets.

Advanced Menu OSD

Level 1	Level 2	Level 3	Factory Pre-set
Brightness	Adjustment Scale		90
Contrast	Adjustment Scale		80
Image Control (analog only)	Auto-Adjustment	"Adjusting" Message	
	Horizontal Position	Adjustment Scale	
	Vertical Position	Adjustment Scale	
	Clock	Adjustment Scale	
	Clock Phase	Adjustment Scale	
	Cancel		
	Save and Return		
Volume (vs monitor only)	ADJ Scale		50
Color	9300 K		
	6500 K		6500 K
	Custom Color	Custom Color Adjustment	
	SRGB		
	Cancel		
	Save and Return		

Advanced Menu OSD *(Continued)*			
Level 1	**Level 2**	**Level 3**	**Factory Pre-set**
Language	Deutsch		
	Simplified Chinese		
	English		English
	Español		
	Français		
	Italiano		
	Nederlands		
	Cancel		
	Save and Return		
Management	Power Saver	On/Off Selection	On
	Power On Recall	On/Off Selection	On
	Mode Display	On/Off Selection	Off
	Power-On Status Display	On/Off Selection	On
	Sleep Timer	Timer Set Menu	Off
	Default Video Input* (*select f monitor models only)	• Analog: VGA • Digital: DVI*	DVI*
	Basic Menu		Main (Basic)
	Cancel		
	Save and Return		
OSD Control	Horizontal Position	Adjustment Scale	50
	Vertical Position	Adjustment Scale	50
	OSD Timeout	Adjustment Scale	30 Seconds
	Cancel		
	Save and Return		

Advanced Menu OSD *(Continued)*			
Level 1	**Level 2**	**Level 3**	**Factory Pre-set**
Information	Current Settings		
	Recommended Settings		
	Serial Number		
	Total Hours		
	Backlight Hours		
	Exit		
Factory Reset	Yes		
	No		
Exit			

Selecting the Video Input Connectors

The two input connectors are:

- VGA connector (analog)
- DVI-D connector (digital) (f monitor, select models only)

The monitor automatically determines which inputs have valid video signals and displays the image. The video input can be manually selected through the OSD feature or selected using the monitor buttons by pressing the **–** (Minus) button for VGA input or the **+** (Plus) button for DVI input.

CAUTION: Image retention may occur on monitors that display the same static image on screen for a prolonged period of time. To avoid image retention on your monitor screen, you should always use a screen saver application or turn off the monitor when it is not in use for a prolonged period of time.

Identifying Monitor Conditions

Special messages display on the monitor screen for the following monitor conditions:

- **Input Signal Out of Range —** Indicates the monitor does not support the video input signal because the resolution or refresh rate are set higher than the monitor supports.
  Set the resolution and refresh rate to the value displayed. Restart your computer for the new settings to take effect.
- **Monitor Going to Sleep —** Indicates the screen display is entering a sleep mode. The speakers are turned off in sleep mode.
- **Check Video Cable —** Indicates a video input cable is not properly connected to the computer or monitor.
- **OSD Lock —** The OSD can be enabled or disabled by pressing and holding the Menu button on the front panel for 10 seconds. If the OSD is locked, the warning message "OSD Lock" displays for 10 seconds.
  - ❑ If the OSD is locked, press and hold the Menu button for 10 seconds to unlock the OSD.
  - ❑ If the OSD is unlocked, press and hold the Menu button for 10 seconds to lock the OSD.
- **No Input Signal —** Indicates the monitor is not receiving a video signal from the computer on the monitor video input connector(s). Check to see if the computer or input signal source is off or in the power-saving mode.
- **Auto-Adjustment is in Progress —** Indicates the Auto-adjustment function is active. See "Adjusting Screen Quality" in this chapter.

Adjusting Screen Quality

The auto-adjustment feature automatically fine-tunes the image quality for display size, position, clock, and phase each time a new video mode is displayed. For more precise adjustments of analog input (VGA), run the Auto-Adjustment software on the CD. See "Using the Auto-Adjustment Function" in this chapter.

If additional image quality improvement is desired, use the Clock and Phase controls of the monitor to fine-tune the image. See "Optimizing Analog Video" in this chapter.

Optimizing Analog Video

This monitor contains advanced circuitry that allows the monitor to function as a standard analog monitor. Two controls in the Advanced Menu OSD can be adjusted to improve analog image performance:

- Clock — Increase or decrease the value to minimize any vertical bars or stripes visible on the screen background.
- Clock Phase — Increase or decrease the value to minimize video distortion or video jitter.

Use these controls only when the auto-adjustment function does not provide a satisfactory monitor image in analog mode.

To obtain the best results:

1. Allow the monitor to warm up for 20 minutes before adjusting.
2. Display the adjustment pattern application provided on the CD.
3. Access the Advanced Menu OSD; select **Image Control**.
4. Set the main Clock correctly first, because the Clock Phase settings depend on the main Clock setting.
    - ❑ When adjusting the Clock and Clock Phase values, if the monitor images become distorted, continue adjusting the values until the distortion disappears.

To restore the factory settings, access the Advanced Menu OSD, select **Factory Reset**, and then select **Yes**.

Entering User Modes

The video controller signal may occasionally require a custom user mode if you are not using a standard graphics adapter or pre-set mode. In this condition, you may need to create a user mode. You can use the OSD to:

- Create a user-defined mode with custom monitor screen parameters.
- Readjust the parameters of any user mode.
- Save them in memory. The monitor automatically stores the new setting, then recognizes the new mode just as it does a pre-set mode.

Ten user modes can be entered and stored, in addition to the factory pre-set modes (see the table "Factory Pre-set Video Input Modes" in Appendix B).

Power-Saver Feature

When the monitor is in normal operating mode, the Power light is blue and the monitor uses the normal watts of power. For power usage, refer to "Technical Specifications" (Appendix B).

The monitor also supports a power-saver mode that is controlled by the computer. When the monitor is in the reduced power state, the monitor screen is blank, the backlight is off, and the Power light is amber. The monitor uses minimum power. When awaken, a brief warm-up period occurs before the monitor returns to normal operating mode. The energy-saving reduced power state activates if the monitor does not detect either the horizontal sync signal or the vertical sync signal. The Power-Saver feature must be activated on your PC for this feature to work.

Refer to your computer documentation for instructions on setting energy-saver features (sometimes called power management features).

The energy-saver feature works only when the monitor is connected to computers that have energy-saver features.

A

Troubleshooting

Solving Common Problems

The following table lists possible problems, the possible cause of each problem, and the recommended solutions.

Problem	Possible Cause	Solution
Screen is blank.	Power cord is disconnected.	Connect the power cord.
	Power switch is turned off.	Turn on the power.
	Video cable is improperly connected.	Connect the video cable properly. See "Setting Up the Monitor" (Chapter 3) for more information.
	Screen blanking utility is active.	Press a key on the keyboard or move the mouse to turn off the screen blanking utility.
Image appears blurred, indistinct, or too dark.	Brightness and contrast are too low.	Press the Auto/Select button on the monitor front panel. If this does not correct the image, press the Menu button to open the Basic OSD Menu, and adjust the brightness and contrast scales as needed.

Problem	Possible Cause	Solution
Image is not centered.	Position may need adjustment.	Press the Menu button to access the OSD menu. Select **Image Control**/ **Horizontal Position** or **Vertical Position** to adjust the horizontal or vertical position of the image.
"No Connection, Check Signal Cable" displays on screen.	Monitor video cable is disconnected.	Connect the monitor video cable to the VGA connector on the computer, or connect the DVI-D (select f monitor models only) signal cable (not provided) to the DVI connector on the computer. Be sure that the computer power is off while connecting the video cable.
"Out of Range."	Video resolution and refresh rate are set higher than what your monitor supports.	Restart your computer and enter Safe Mode. Change your settings to a supported setting (see the table in "Pre-set Video Modes" in Appendix B). Restart your computer so that the new settings take effect.

Using the World Wide Web

Before contacting customer service, refer to the HP Technical Support at: **http://www.hp.com/support**

Select your country/region, and then follow the links to the support page for your monitor.

Preparing to Call Technical Support

If you cannot solve a problem using the troubleshooting tips in this section, you may need to call technical support. For technical support contact information, refer to the printed documentation included with the monitor. Have the following available when you call:

- Monitor model number (located in label on back of monitor)
- Monitor serial number (located in label on back of monitor)
- Purchase date on invoice
- Conditions under which the problem occurred
- Error messages received
- Hardware configuration
- Name and version of the hardware and software you are using

Locating the Rating Label

The rating label on the monitor provides the spare part number, product number, and serial number. You may need these numbers when contacting HP about your monitor model.

Locate the monitor rating label on the back of the monitor.

B

Technical Specifications

All performance specifications are provided by the component manufacturers. Performance specifications represent the highest specification of all HP's component manufacturers' typical level specifications for performance and actual performance may vary either higher or lower.

HP vs LCD Monitors

HP vs LCD Monitor		
Display Type	TFT LCD Active Matrix	
	HP vs15: 15.0 in.	38.1 cm
	HP vs17: 17.0 in.	43.2 cm
	HP vs19: 19.0 in.	48.3 cm
Viewable Image Size		
	HP vs15: 15.0-inch diagonal	38.1 cm
	HP vs17: 17.0-inch diagonal	43.2 cm
	HP vs19: 19.0-inch diagonal	48.3 cm
Tilt	–5° to 30°	
Face Treatment	Antiglare polarizer with hard coating	
Maximum Weight (unpacked)		
	HP vs15: 7.3 lb.	3.3 kg
	HP vs17: 10.14 lb.	4.6 kg
	HP vs19: 11.7 lb.	5.3 kg

HP vs LCD Monitor *(Continued)*

Dimensions (including base)	Height x Width x Depth	Height x Width x Depth
HP vs15:	13.6 x 13.7 x 7.5 in.	345 x 347 x 189 mm
HP vs17:	15.4 x 15.0 x 8.1 in.	391 x 381 x 204 mm
HP vs19:	16.7 x 16.8 x 8.1 in.	424 x 426 x 204 mm
Maximum Graphics Resolution		
HP vs15:	1024 x 768 (75 Hz) analog mode	
HP vs17:	1280 x 1024 (80 Hz) analog mode	
HP vs19:	1280 x 1024 (80 Hz) analog mode	
Text Mode	720 x 400	
Dot Pitch		
HP vs15:	0.297 x 0.297 mm	
HP vs17:	0.264 x 0.264 mm	
HP vs19:	0.294 x 0.294 mm	
Horizontal Frequency (analog mode)		
HP vs15:	30 to 60 kHz	
HP vs17:	30 to 83 kHz	
HP vs19:	30 to 83 kHz	
Vertical Refresh Rate (analog mode)	50 to 76 Hz	
Environmental Requirements		
Temperature:		
Operating Temperature	41 to 95° F	5 to 35° C
Non-operating Temperature	–4 to 140° F	–20 to 60° C
Relative Humidity	20% to 80%	
Power Source	100–240V∿, 50/60 Hz	

HP vs LCD Monitor *(Continued)*

Power Consumption		
	HP vs15: <26 watts typical	
	HP vs17: <45 watts typical	
	HP vs19: <50 watts typical	
Sleep Power Consumption		
	HP vs15: <2 watts typical	
	HP vs17: <2 watts typical	
	HP vs19: <2 watts typical	
Input Terminals	VGA 15-pin D-type connector	Analog cable included

HP f LCD Monitors

HP f LCD Monitor			
Display Type		TFT LCD Active Matrix	
	HP f1705:	17.0 in.	43.2 cm
	HP f1905:	19.0 in.	48.3 cm
Viewable Image Size			
	HP f1705:	17.0-inch diagonal	43.2 cm
	HP f1905:	19.0-inch diagonal	48.3 cm
Tilt		–5° to 35°	
Face Treatment		Antiglare polarizer with hard coating	
Maximum Weight (unpacked)			
	HP f1705:	13 lbs.	5.9 kg
	HP f1905:	15.4 lbs.	7.0 kg
Dimensions (including base)		Height x Width x Depth	Height x Width x Depth
	f1705:	17.7 x 14.9 x 10.0 in.	445 x 379 x 253 mm
	(minimum height)	(15 in.)	(381 mm)
	f1905:	18.5 x 16.7 x 10.5 in.	471 x 425 x 257 mm
	(minimum height)	(13.7 in.)	(348 mm)
Maximum Graphics Resolution		1280 x 1024 (75 Hz) analog and digital modes	
Text Mode		720 x 400	
Dot Pitch			
	HP f1705:	0.264 x 0.264 mm	
	HP f1905:	0.294 x 0.294 mm	
Horizontal Frequency (analog mode)		30 to 83 kHz	

HP f LCD Monitor *(Continued)*		
Vertical Refresh Rate (analog mode)	50 to 76 Hz	
Environmental Requirements		
Temperature:		
Operating Temperature	41 to 95° F	5 to 35° C
Non-operating Temperature	–4 to 140° F	–20 to 60° C
Relative Humidity	20% to 80%	
Power Source	100–240V∿, 50/60 Hz	
Power Consumption	<70 watts typical	
Sleep Power Consumption	<2 watts typical	
Input Terminals	VGA 15-pin D-type connector	Analog cable included
	DVI-D connector (select models only)	DVI-D cable not included

Pre-set Video Modes

This monitor automatically recognizes many pre-set video input modes that will appear properly sized and centered on the screen. The following modes are assigned at the factory and are the most commonly used display resolutions:

- HP vs15 supports pre-set modes 1 through 11
- HP vs17 supports pre-set modes 1 through 15
- HP vs19 supports pre-set modes 1 through 15
- HP f1705 supports pre-set modes 1 through 15
- HP f1905 supports pre-set modes 1 through 15

Factory Pre-set Video Input Modes

Pre-set	Pixel Format	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
1	640 x 480	31.5	60.0
2	640 x 480	37.9	72.0
3	640 x 480	37.5	75.0
4	720 x 400	31.5	70.0
5	800 x 600	37.9	60.0
6	800 x 600	48.1	72.0
7	800 x 600	46.9	75.0
8	832 x 624	49.7	75.0
9	1024 x 768	48.4	60.0
10	1024 x 768	56.5	70.0
11	1024 x 768	60.0	75.0

Factory Pre-set Video Input Modes *(Continued)*

Pre-set	Pixel Format	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
12*	1152 x 870	68.7	75.6
13*	1152 x 900	71.7	76.0
14*	1280 x 1024	63.9	60.0
15*	1280 x 1024	80.0	75.0

*Pre-set not supported for HP vs15 monitor.

LCD Monitor Quality and Pixel Policy

The HP LCD Monitor uses high-precision technology, manufactured according to high standards, to guarantee trouble-free performance. Nevertheless, the display may have cosmetic imperfections that appear as small bright or dark spots. This is common to all LCD displays used in products supplied by all vendors and is not specific to the HP LCD Monitor. These imperfections are caused by one or more defective pixels or subpixels.

- A pixel consists of one red, one green, and one blue subpixel.
- A defective whole pixel is always turned on (a bright spot on a dark background), or it is always off (a dark spot on a bright background). The first is the more visible of the two.
- A defective subpixel (dot defect) is less visible than a defective whole pixel and is small and only visible on a specific background.

The HP LCD Monitor has:

- Less than 5 total dot defects
- 0 defective full pixels
- 3 defective bright subpixels (maximum)
- 5 defective dark subpixels (maximum)

To locate defective pixels, the monitor should be viewed under normal operating conditions and in normal operating mode at a supported resolution and refresh rate, from a distance of approximately 50 cm (16 inches).

We expect that, over time, the industry will continue to improve its ability to produce displays with fewer cosmetic imperfections, and we will adjust guidelines as improvements are made.

Power Cord Set Requirements

The monitor power supply is provided with Automatic Line Switching (ALS). This feature allows the monitor to operate on input voltages between 100–120V∿ or 200–240V∿.

The power cord set (flexible cord or wall plug) received with the monitor meets the requirements for use in the country/region where you purchased the equipment.

If you need to obtain a power cord for a different country/region, you should purchase a power cord that is approved for use in that country/region.

The power cord must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product. In addition, the cross-sectional area of the wire must be a minimum of 0.75 mm^2 or 18AWG, and the length of the cord must be between 4.94 ft. (1.5 m) and 12 ft. (3.6 m). If you have questions about the type of power cord to use, contact your HP-authorized service provider.

A power cord should be routed so that it is not likely to be walked on or pinched by items placed upon it or against it. Particular attention should be paid to the plug, electrical outlet, and the point where the cord exits from the product.

C

Agency Regulatory Notices

Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Hewlett-Packard Company may void the user's authority to operate the equipment.

Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods to maintain compliance with FCC rules and regulations.

Declaration of Conformity for Products Marked with FCC Logo, United States Only

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions regarding your product, contact:

Hewlett-Packard Company
P. O. Box 692000, Mail Stop 530113
Houston, Texas 77269-2000

Or, call

1-800-652-6672

For questions regarding this FCC declaration, contact:

Hewlett-Packard Company
P. O. Box 692000, Mail Stop 510101
Houston, Texas 77269-2000

Or, call

1-281-514-3333

To identify this product, refer to the part, series, or model number found on the product.

Canadian Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Avis Canadien

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms (in brackets are the equivalent international standards):

- EN55022 (CISPR 22) — Electromagnetic Interference
- EN55024 (IEC61000-4-2,3,4,5,6,8,11) — Electromagnetic Immunity
- EN61000-3-2 (IEC61000-3-2) — Power-Line Harmonics
- EN61000-3-3 (IEC61000-3-3) — Power-Line Flicker
- EN60950 (IEC60950) — Product Safety

Japanese Notice

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

Korean Notice

B급 기기 (가정용 정보통신기기)

이 기기는 가정용으로 전자파적합등록을 한 기기로서
주거지역에서는 물론 모든지역에서 사용할 수 있습니다.

EPA Energy Star Compliance

Products marked with the ENERGY STAR® logo on the packaging box qualify with the U.S. Environmental Protection Agency's ENERGY STAR guidelines for energy efficiency.

Products with the ENERGY STAR label are designed to use less energy, help you save money on utility bills, and help protect the environment.

ENERGY STAR® is a registered trademark owned by the U.S. government.

HP Recycling Program

HP offers product end-of-life return programs for HP and other manufacturers' hardware in several geographic areas.

The terms and availability of these programs vary by geography because of differences in regulatory requirements and local customer demand. For information on the HP recycling program, refer to the HP Web site at:
http://www.hp.com/recycle